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EXAMINER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JORDAN T. BOURILKOV,
GEORGE M. CINTRA, DAVID N. KLEIN,
LESLIE J. PINNELL, and JOHN ROTONDO¹

Appeal 2015-002678
Application 12/468,432
Technology Center 2800

Before JASON V. MORGAN, BRUCE R. WINSOR, and JUSTIN BUSCH,
Administrative Patent Judges.

MORGAN, *Administrative Patent Judge.*

DECISION ON APPEAL

Introduction

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's Non-Final Rejection of claims 1–28. An oral hearing was requested and scheduled for November 15, 2016. However, the oral hearing was waived. *See* Notice of Hearing Response (Nov. 16, 2016). We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

¹ Appellants identify Proctor & Gamble, Inc., doing business as The Gillette Company, as the real party in interest. App. Br. 2.

Invention

Appellants disclose an apparatus that includes a charger and a plurality of connectors where the charger is configured to charge a device connected to one of the connectors according to a type of battery detected in the device. Abstract.

Exemplary Claims

Claims 1, 4, and 13–15, reproduced below with key limitations emphasized, are exemplary:

1. An apparatus comprising:

a plurality of connectors, wherein each connector is configured to receive a device including a rechargeable battery; and

a charger coupled to the plurality of connectors to charge the battery of each device connected to the plurality of connectors according to a type of battery detected in each of the devices.

4. The apparatus of claim 2, wherein the charger further comprises:

circuitry to control switching of the plurality of switches associated with the plurality of connectors to connect the plurality of connectors to the charger to permit charging current to flow from the variable current source to devices connected to the plurality of connectors based upon a battery type identified by the battery type identifier.

13. The apparatus of claim 4, *wherein the charger charges devices according to an ordering of the connectors.*

14. The apparatus of claim 1, wherein when a first device is connected to a first connector of the plurality of connectors at a first time, and a second device is connected to a second, different connector of the plurality of connectors at a second time later than the first time, *the charger diverts current from*

the first device to the second device according to relative capacities of batteries associated with the devices.

15. An apparatus comprising:

a plurality of switches associated with a plurality of connectors to electrically couple the plurality of connectors to a charger; and

a user interface configured to receive an indication of a prioritized charging scheme from a user with the charger, charging charges devices connected to the connectors according to a type of battery detected in each of the devices and according to the prioritized charging scheme.

Rejections

The Examiner rejects claims 1–28 under 35 U.S.C. § 112, second paragraph, as being indefinite. Non-Final Act. 3.

The Examiner rejects claims 1 and 15–18 under 35 U.S.C. § 102(e) as being anticipated by Brandon et al. (US 7,816,886 B2; Oct. 19, 2010). Non-Final Act. 12–13.

The Examiner rejects claims 17–19 under 35 U.S.C. § 102(b) as being anticipated by Vinciguerra et al. (US 6,771,044 B1; Aug. 3, 2004). Non-Final Act. 13–14.

The Examiner rejects claims 1–7, 12–14, 17, 20–22, and 24–28 under 35 U.S.C. § 103(a) as being unpatentable over Brake et al. (US 5,780,991; July 14, 1998) and Brandon. Non-Final Act. 5–11.

ISSUES

1. Did the Examiner err in finding claim 1 is indefinite for failing to particularly point out and distinctly claim the subject matter Appellants regard as the invention?

2. Did the Examiner err in finding that Brandon discloses “a plurality of connectors . . . each connector . . . configured to receive a device including a rechargeable battery,” as recited in claim 1?

3. Did the Examiner err in finding the combination of Brake and Brandon teaches or suggests permitting “charging current to flow from the variable current source to devices connected to the plurality of connectors based upon a battery type identified by the battery type identifier,” as recited in claim 4?

4. Did the Examiner err in finding the combination of Brake and Brandon teaches or suggests “wherein the charger charges devices according to an ordering of the connectors,” as recited in claim 13?

5. Did the Examiner err in finding the combination of Brake and Brandon teaches or suggests wherein “the charger diverts current from the first device to the second device according to relative capacities of batteries associated with the devices,” as recited in claim 14?

6. Did the Examiner err in finding Brandon discloses “a plurality of switches associated with a plurality of connectors to electrically couple the plurality of connectors to a charger,” as recited in claim 15?

7. Do Appellants identify error in the Examiner’s 35 U.S.C. § 102(b) rejections of claims 17–19?

ANALYSIS

Except as discussed below with respect to the Examiner’s 35 U.S.C. § 112, second paragraph, rejection of claims 1–28, we agree with and adopt as our own the Examiner’s findings of facts and conclusions as set forth in the Answer and in the Action from which this appeal was taken. We have

considered Appellants' arguments, but do not find them persuasive of error. We provide the following explanation for emphasis.

35 U.S.C. § 112, second paragraph—Claims 1–28

In rejecting claim 1 under 35 U.S.C. § 112, second paragraph, the Examiner finds the *plurality of connectors* recitation is indefinite because the Specification “shows the recited ‘connectors’ are really charging docks [But the] term ‘connector’ has attained a separate and established meaning in the art such as *plug, socket, jack etc. used for connecting one device to another.*” Non-Final Act. 3 (citing Spec. Fig. 3). The Examiner identifies four interpretations of the *plurality of connectors* recitation (contact terminals, charging docks, conductors, *device-type* connectors such as jacks, plugs or USB connectors, etc., within charging docks). Ans. 4–8.

Appellants contend the Examiner erred because, in light of the Specification, an artisan of ordinary skill would be reasonably apprised of the scope of the claimed invention. App. Br. 10 (citing, e.g., Spec. Figs. 1, 3). Appellants acknowledge that two of the Examiner's interpretations of a *plurality of connectors*—contact terminals and device-type connectors—are largely consistent with the Specification, but argue that the other two interpretations—charging docks and conductors not configured to receive devices—are unreasonable. Reply Br. 2–5.

We find Appellants' arguments persuasive. The term *connector*, and thus the recitation of a *plurality of connectors*, is broad, but not indefinite. A *plurality of connectors*, as claimed, encompasses, without ambiguity, contact terminals, device-type connectors, and even components of a charging dock or conductors *configured to receive a device*. Because an artisan of ordinary skill would be reasonable apprised of the scope of the *plurality of*

connectors, as recited in claim 1, the Examiner's findings do not show that claim 1 is indefinite.

Similarly, the Examiner's findings do not show that independent claims 15, 17, and 20 are indefinite. With respect to the disputed recitation, these claims differ because they do not use the *configured to receive a device* language of claim 1. However, these claims recite that *charging devices connected to the connectors* (claim 15) or *plurality of connectors* (claim 17), and *each device connected through the plurality of connectors* (claim 20). In light of these recitations, which provide context for the *plurality of connectors* recitations, and in light of the Specification, an artisan of ordinary skill would be reasonably apprised of the scope of claims 15, 17, and 20.

Accordingly, we do not sustain the Examiner's 35 U.S.C. § 112, second paragraph, rejection of claim 1, and claims 2–28, which are similarly rejected.

35 U.S.C. § 102(e)—Claim 1
35 U.S.C. § 103(a)—Claims 1–3, 17, 20, 21, 27, and 28

In rejecting claim 1 under 35 U.S.C. § 103(a), the Examiner finds Brandon's base 102, configured to receive pods 104a and 104b for charging batteries disposed therein, teaches or suggests a *plurality of connectors, each connector configured to receive a device including a rechargeable battery*. Non-Final Act. 5 (citing Brandon col. 3, ll. 47–54, 61–67, col. 6, ll. 11–16, col. 8, ll. 16–19, and Figs. 1, 2). In rejecting claim 15 (as being representative of claim 1) under 35 U.S.C. § 102(e), the Examiner also finds Brandon's base 102 discloses similar recited features (i.e., *charging devices*

connected to the connectors according to a type of battery detected in each of the devices). Non-Final Act. 12.

Appellants contend the Examiner erred because Brandon's pods merely disclose configurations for a battery pack rather than a *device* including a rechargeable battery. App. Br. 14. That is, Appellants argue Brandon does not disclose a connector configured to receive a *device* as claimed. *Id.* at 14, 21; *see also* Reply Br. 9–10.

Appellants' arguments are unpersuasive because, as the Examiner correctly finds, Brandon's pods are not limited to being mere battery packs, but can include an electrically powered appliance such as a flashlight, thus making them *devices* as claimed. *See* Ans. 19 (citing Brandon col. 8, ll. 16–19). Appellants do not persuasively address this disclosed feature of Brandon's pods. Therefore, we agree with the Examiner that Brandon's base, which is configured to receive pods that can include electrically powered appliances, discloses “a plurality of connectors . . . each connector . . . configured to receive a device including a rechargeable battery,” as recited in claim 1.

Accordingly, we sustain the Examiner's 35 U.S.C. § 102(e) rejection of claim 1.

With respect to the Examiner's 35 U.S.C. § 103(a) rejection of claim 1, Appellants further argue the Examiner “has not shown that Brake describes a connector that receives a device that includes a rechargeable battery.” App. Br. 13 (citing Brake Fig. 6). However, as discussed above, the Examiner's findings show that Brandon alone discloses the disputed recitation. Thus, Appellants' argument is unpersuasive.

Appellants also argue the Examiner's proffered reason for combining the teachings and suggestions of Brake and Brandon is improper because "presumably Brake has multiple batteries in a battery pack and thus charges packs of multiple batteries." App. Br. 15. However, Brake illustrates its battery pack as a closed (and likely sealed) unit having Ni-Cd or Li-Ion battery cells. *See, e.g.*, Brake Figs. 3, 4, col. 3, ll. 9–13. Brandon, in contrast, illustrates its pods as enabling the insertion and removal of batteries to be charged. *See, e.g.*, Brandon Fig. 2, col. 6, l. 64–col. 7, l. 2. Because Brandon's pods allow for multiple batteries (which can be inserted into or removed from each pod) to be charged simultaneously as a unit, unlike Brake's battery packs which merely combine multiple cells (which are not intended for individual insertion or removal), the Examiner's proffered reason why it would have been obvious to an artisan of ordinary skill to combine the teachings of Brake and Brandon is reasonable and supported by substantial evidence.

Accordingly, we sustain the Examiner's 35 U.S.C. § 103(a) rejection of claim 1, and claims 2, 3, 17, 20, 21, 27, and 28, which Appellants do not argue separately.

35 U.S.C. § 103(a)—Claims 4–7, 12, 22, and 24

In rejecting claim 4 under 35 U.S.C. § 103(a) as being unpatentable over Brake and Brandon, the Examiner finds Brake's connectors and Brandon's determination of the type or types of batteries 212 installed in pod 104a before beginning the charging process teaches or suggests permitting *charging current to flow from the variable current source to devices connected to the plurality of connectors based upon a battery type identified by the battery type identifier*. Non-Final Act. 7 (citing, e.g., Brake Figs. 6, 7,

col. 5, ll. 26–39; Brandon col. 6, ll. 11–16). The Examiner also finds Brake’s use of stored charging algorithms, selected based on whether a Li-Ion battery pack or a Ni-Cd battery pack is being charged, teaches or suggests the claimed charging *based upon an identified battery type*. Ans. 24 (citing Brake col. 6, ll. 3–59).

Appellants contend the Examiner erred because “rather than applying charging current to devices based on battery type, Brake determines charging current based on the stored algorithm and waits if a different battery type is inserted.” App. Br. 16 (preceded by a quote from Brake col. 8, ll. 27–35). However, Brake does determine which charging algorithm to use based on a battery type. *See* Brake Fig. 8A (steps 305, 308, and 320). The claim limitations do not preclude potential delay before such an algorithm is executed.

Appellants further contend the Examiner erred because “the salient limitation . . . of claim 4 is that the switching control of the switches is based on the determined battery type from the battery type identifier.” Reply Br. 11; *see also* App. Br. 16–17. Appellants argue that “[n]othing in Brake’s FIG. 7 shows that the *switches* are controlled as the claimed feature as evidenced by Brake[’]s Figs. 8A and 8B.” Reply Br. 13 (emphasis added). However, a reasonably broad interpretation, in light of the Specification, of claim 4 encompasses the *charging flow* (rather than the *control switching of the plurality of switches*) being *based upon a battery type*. *See, e.g.*, Spec. 7, ll. 3–7) (“Based on the identity of the battery . . . the charger accesses a lookup table that indexes suitable charging current values . . .”).

Appellants’ arguments are not commensurate with the scope of the claimed invention, and are thus unpersuasive. Therefore, we agree with the

Examiner that the combination of Brake and Brandon teaches or suggests permitting “charging current to flow from the variable current source to devices connected to the plurality of connectors based upon a battery type identified by the battery type identifier,” as recited in claim 4.

Accordingly, we sustain the Examiner’s 35 U.S.C. § 103(a) rejection of claim 4, and claims 5–7, 12, 22, and 24, which Appellants do not argue separately.

35 U.S.C. §103(a)—Claims 13 and 25

In rejecting claim 13 under 35 U.S.C. § 103(a), the Examiner finds it would have been well-known to have a *charger charge devices according to an ordering of the connectors*. Non-Final Act. 11. Appellants contend the Examiner erred based on deficiencies in Vinciguerra (App. Br. 20; Reply Br. 15), although Vinciguerra is not currently being used in rejecting claim 13 (Non-Final Act. 11). Appellants further argue that the Examiner “has not produced any objective evidence that would establish that [the disputed] feature is well-known.” App. Br. 20. Appellants also argue that “[n]either Brake nor Brandon teaches that the charger charges devices according to an ordering of the connectors. Charging on ‘a first come first served basis’ bears no relationship to prioritization based on the ordering of connectors.” Reply Br. 16.

Appellants’ arguments are unpersuasive of error because Appellants do not persuasively distinguish charging devices according to an ordering of the connectors from the first-come, first-serve ordering Appellants acknowledge is taught or suggested by Brake and Brandon. Brandon, for example, teaches that “the first bay **302** to receive a pod **104** is designated as the primary bay; the second bay **302** to receive a pod **104** is designated as

the secondary bay.” Brandon col. 4, ll. 40–42. All or substantially all of the charging energy is applied to the primary bay until the pod placed in it is substantially charged or otherwise removed, at which point the secondary bay becomes the primary bay. *Id.* at col. 4, ll. 44–50. The ordering of the bays (i.e., the connectors) in Brandon is based on the order in which pods are placed into each bay. However, this is still *an ordering* of the bays or connectors. Therefore, we agree with the Examiner that the combination of Brake and Brandon teaches or suggests “wherein the charger charges devices according to an ordering of the connectors,” as recited in claim 13.

Accordingly, we sustain the Examiner’s 35 U.S.C. § 103(a) rejection of claim 13, and claim 25, which Appellants do not argue separately. App. Br. 20.

35 U.S.C. §103(a)—Claims 14 and 26

In rejecting claim 14 under 35 U.S.C. § 103(a), the Examiner finds Brake’s charging of a Li-Ion battery pack to time $t_{\text{crossover}}$, with parallel charging of Li-Ion packs past time $t_{\text{crossover}}$, in light of Brandon’s charging batteries method, teaches or suggests wherein *the charger diverts current from the first device to the second device according to relative capacities of batteries associated with the devices*. Non-Final Act. 9 (citing Brake Fig. 8, col. 8, l. 58–col. 9, l. 21; Brandon Fig. 5, col. 5, l. 66–col. 6, l. 38).

Appellants contend the Examiner erred because, based on Brake’s step 322, when another battery in Brake “is inserted and that battery is NiCd or Li-Ion, the charger will wait until the charging of the current charging battery pack is completed. Accordingly, there is no diversion of current to the second battery in Brake as conten[d]ed by the examiner.” App. Br. 19; *see also* Reply Br. 15. However, the Examiner relies on steps 324 and 325

as well, which show that if the battery packs being charged have been charged past time $t_{\text{crossover}}$, then charging of the packs is stopped in order to charge the new pack (i.e., current is diverted from the packs being charged to the new pack). *See* Ans. 29 (citing, e.g., Brake Fig. 8, col. 8, l. 58–col. 9, l. 21). Appellants’ arguments do not address the Examiner’s reliance on these additional steps. Nor do Appellants’ arguments persuasively distinguish the claimed diversion of current from Brake’s steps directed to stopping the charging of packs in order to charge a new pack to time $t_{\text{crossover}}$. Therefore, we agree with the Examiner that the combination of Brake and Brandon teaches or suggests wherein “the charger diverts current from the first device to the second device according to relative capacities of batteries associated with the devices,” as recited in claim 14.

Accordingly, we sustain the Examiner’s 35 U.S.C. § 103(a) rejection of claim 14, and claim 26, which Appellants do not argue separately. App. Br. 18–20.

35 U.S.C. §102(e)—Claims 15–18

In rejecting claim 15 under 35 U.S.C. § 102(e), the Examiner finds Brandon’s illustrated switches in bay select circuitry 404 discloses *a plurality of switches associated with a plurality of connectors to electrically couple the plurality of connectors to a charger*. Non-Final Act. 12 (citing Brandon Figs. 3, 4).

Appellants contend the Examiner erred because Brandon merely “teaches a switch to couple a charging channel to a pair of bays . . . that teaching however is not what is claimed.” App. Br. 22 (citing Brandon Fig. 4). Appellants direct our attention to the Specification’s illustration of a charger that “has three MOSFET switches that couple the charger to the

connectors.” App. Br. 22–23 (citing Spec. Fig. 3). Appellants argue that the disclosed “arrangement is distinct from and not suggested, much less described by Brandon.” App. Br. 23. However, Appellants’ arguments are based on the Specification’s *disclosure*, not the limitations of the *claimed* invention. As such, Appellants’ arguments do not persuasively distinguished the disputed recitations from the relied upon portions of Brandon. Therefore, we agree with the Examiner that Brandon discloses “a plurality of switches associated with a plurality of connectors to electrically couple the plurality of connectors to a charger,” as recited in claim 15.

Accordingly, we sustain the Examiner’s 35 U.S.C. § 102(e) rejection of claim 15, and claims 16–18, which Appellants do not argue separately. App. Br. 21–23.

35 U.S.C. §102(b)—Claims 17–19

In rejecting claim 17 under 35 U.S.C. § 102(b), the Examiner relies on Vinciguerra to disclose the claim recitations. Non-Final Act. 13–14.

Appellants contend Vinciguerra fails to disclose:

the plurality of switches associated with a plurality of connectors to electrically couple the plurality of connectors to the charger . . . [and] a processor configured to provide to the charger at least one prioritize charging scheme [and] “the charger, charging devices connected to the plurality of connectors using the at least one prioritized charging scheme.”

App. Br. 23.

Appellants’ assertions are conclusory. *Id.* Therefore, Appellants do not persuasively identify error in the Examiner’s 35 U.S.C. § 102(b) rejection of claim 17, which we summarily sustain. Appellants’ contentions with respect to claims 18 and 19 and similarly unpersuasive. *Id.* at 23–24.

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Therefore, we also sustain the Examiner's 35 U.S.C. § 102(b) rejection of claims 18 and 19.

DECISION

We affirm the Examiner's decision rejecting claims 1–7, 12–22, and 24–28.

We reverse the Examiner's decision rejecting claims 8–11 and 23.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 41.50(f).

AFFIRMED-IN-PART